CROSS CHANNEL DEVICE FOR SERIAL SAMPLE INJECTION

ABSTRACT OF THE DISCLOSURE

The present invention provides a microfluidic analytical device and accompanying methods for injecting a sample and separating the components therein comprising an injection channel and an intersecting separation channel, the two channels formed to be in continuous fluid communication with one another. The separation channel preferably includes a separation material for resolving the components in a sample. The methods include using a first force, preferably a pressure differential, and a second force, preferably an electric field, to move samples through the microchannels. The device and methods are specially adapted to accommodate multiple sample injection and separation. Thus, the device and methods allow for increased sample throughput and are simple and inexpensive to carry out compared to related devices and methods.